

0068596

**SAF-RC-001**  
**Industrial Hygiene Sampling**  
**FINAL DATA**

**NO DISTRIBUTION REQUIRED**

**COMMENTS:**

SDG 05I-4769-01 SAF-RC-001

Rad only    ☒ Chem only    Rad & Chem

☒ Complete    Partial

**300 Area 334A Bldg**

**RECEIVED**  
FEB 16 2006  
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## Cover Page

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Report Identification Number: 05I-4769-01  
Subcontract Number: 0000X-BO-G0058-B-Mod#4  
Name of Industrial Hygienist: Denise A. Pitts / Henry W. Ruby  
Laboratory Identification Number: DCHM  
SAF#: RC-001 / R33400 J451  
Payroll#: 72520



### Sample Information

Sample Date	Customer Sample Number	Laboratory Sample Number	Method	Analytical Batch Identification	Sample Matrix
16 Nov 2005	J10JX3	05I44661	NMAM 7300M	G05BK010	MCE
16 Nov 2005	J10JX1	05I44662	NMAM 7300M	G05BK010	MCE
16 Nov 2005	J10JX2	05I44663	NMAM 7300M	G05BK010	MCE

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Name: Joanna C. Sanchez  
Title: Chemist  
Date: November 21, 2005

Report Identification Number: 05I-4769-01  
Subcontract Number: 0000X-BO-G0058-B-Mod#4  
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**General Set Information:** There are 3 samples in set 05I-4769-01 which were analyzed for cadmium and beryllium on MCE filter. No problems were encountered with the receipt of these samples and no contact with the CTR was required.

**Method Summary:** Samples were transferred to 50 ml centrifuge tubes and digested in the presence of 10 mL of 1:1 (v/v) nitric acid. Samples were digested in a hot block set at 110°C (with a thermometer reading of 98°C) for 40 minutes. Samples were then diluted to a 25 mL volume with ASTM Type II Water. Samples were shaken and delivered for ICP analysis.

**Sample Preparation:** All samples were prepared in accordance with DCL SOP "IH-AN-021" and NIOSH method NMAM 7300 modified for hot block digestion.

**Holding Times:** The holding times were met for both sample preparation and analysis.

**Instrument Calibration:** Instrument calibration was performed in accordance with NIOSH method NMAM 7300.

**Initial and Continuing Calibration Verification Analysis:** Beryllium and cadmium recoveries in all Initial Calibration Verification (ICV) and Continuing Calibration Verification (CCV) samples are within the quality control limits of  $\pm 10\%$ .

**Initial and Continuing Calibration Blank Analysis:** No beryllium results were found in the Initial Calibration Blank (ICB) or Continuing Calibration Blanks (CCB) at levels above the Limit of Quantitation (LOQ) of 0.01 ug/sample. No cadmium results were found in the Initial Calibration Blank (ICB) or Continuing Calibration Blanks (CCB) at levels above the Limit of Quantitation (LOQ) of 0.06 ug/sample.

**Method Blank Analysis:** No beryllium or cadmium was found in the media blank sample above the Contract Required Detection Limits (CRDL).

**Dilution(s):** NA.

**Laboratory Control Sample and Duplicate Analysis:** One Laboratory Control Sample (LCS) and one Laboratory Control Sample Duplicate (LCSD) were prepared and analyzed with the sample batch. The LCS results for both beryllium and cadmium were within the control limit of  $\pm 20\%$ . The

Relative Percent Differences (RPD) between the LCS and the LCSD were within the control limit of 20%.

**Replicate Analysis:** One sample in this batch was replicated. The RPD between the sample and the replicate were within the control limit of 20%. If the result of the sample or replicate is below the CRDL, replicate analysis is negligible.

**Flagging Codes:** None

**Nonconformance/Corrective Action Report (NC/CAR):** N/A

**Sample Calculation:** The final results are calculated by the following equation:

Final result for aqueous samples ( $\mu\text{g}/\text{sample}$ ) = (A) x (B) x (C)

Where:

A = Analyte concentration from instrument determination ( $\mu\text{g}/\text{L}$ )

B = Concentration factor from sample preparation

=  $\frac{\text{Final Volume of Digestate (L)}}{\text{Sample}}$

C = Dilution performed at time of analysis

Example Calculation:  $(1 \mu\text{g}/\text{L}) \times (0.025 \text{ L}/\text{sample}) \times (1) = 0.025 \mu\text{g}/\text{sample}$

**Miscellaneous Comments:** None.

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Customer Sample Number	Laboratory Sample Number	Date Analyzed	Beryllium µg/sample		Beryllium µg/m <sup>3</sup>		Air Volume L	
J10JX3	05I44661	18 Nov 2005	<0.01	U	<0.029		349	
J10JX1	05I44662	18 Nov 2005	<0.01	U	**		**	
J10JX2	05I44663	18 Nov 2005	<0.01	U	**		**	
Limit of Detection (LOD)			0.01					
Required Detection Limit (RDL)								

Customer Sample Number	Laboratory Sample Number	Date Analyzed	Cadmium µg/sample		Cadmium µg/m <sup>3</sup>	
J10JX3	05I44661	18 Nov 2005	<0.06	U	<0.17	
J10JX1	05I44662	18 Nov 2005	<0.06	U	**	
J10JX2	05I44663	18 Nov 2005	<0.06	U	**	
Limit of Detection (LOD)			0.06			
Required Detection Limit (RDL)						

U - Parameter not detected above LOD.

J - Parameter between LOD and RDL.



## QC Summary Page

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Report Identification Number: 05I-4769-01  
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SAF: RC-001 / R33400 J451  
Payroll#: 72520

Batch ID: G05BK010

QC Sample ID	QC Type	Analyte	Units	Result	Parent Result	Target	Percent Rec.	Relative Percent Diff.
BL-238428-1	MB	Beryllium	µg/sample	ND	NA	NA	NA	NA
BL-238428-1	MB	Cadmium	µg/sample	ND	NA	NA	NA	NA
QC-238428-1	LCS	Beryllium	µg/sample	10.2	NA	10.0	102.	NA
QC-238428-1	LCS	Cadmium	µg/sample	29.5	NA	30.0	98.5	NA
QD-238428-1	LCSD	Beryllium	µg/sample	10.6	10.2	10.0	106.	3.24
QD-238428-1	LCSD	Cadmium	µg/sample	30.5	29.5	30.0	102.	3.18

MB - Method Blank

LCS - Laboratory Control Sample

LCSD - Laboratory Control Sample Duplicate

MS - Matrix Spike

MSD - Matrix Spike Duplicate

LD - Laboratory Duplicate

NA - Not Applicable

ND - Parameter not detected above LOD

$LCS, LCSD \text{ Percent Rec.} = (\text{Result} / \text{Target}) * 100.0$

$MS, MSD \text{ Percent Rec.} = ((\text{Result} - \text{Parent}) / \text{Target}) * 100.0$

$LCS, LCSD \text{ Relative Percent Diff.} = ( (|LCS - LCSD|) / ((LCS + LCSD)/2.0) ) * 100.$

$MS, MSD \text{ Relative Percent Diff.} = ( (|MS - MSD|) / ((MS + MSD)/2.0) ) * 100.$

$LD \text{ Relative Percent Diff.} = ( (|Parent - LD|) / ((Parent + LD)/2.0) ) * 100$

WCH-SH-202 (08/29/2005)

Enter on line below the first Sample Number from Page One:

2102X3

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			
SIGN / PRINT NAMES / USE MILITARY TIME			
Released By/Serial	DATE / TIME	Received By/Serial	DATE / TIME
Cynthia Williams	11-16-05 11000	3746 B106 PM 16 locked cabinet	11-16-05 11000
<del>David Wolf</del> David Wolf	11/17/05 1415	David St John	11/17/05 1415
David St John w ch	11/17/05 1445	Pend 804	
Fed EX		Fed EX	
Melba 3 JW		Juli Wapleton	11/18/05 1000
LABORATORY SECTION	Received By: Juli Wapleton	Title	DATE / TIME 11/18/05 1000

REVIEWED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
PRINT/SIGN NAME